

ABSTRACT

A multi-hop relaying method and apparatus used in a cellular network. The multi-hop transmission scheme utilizes intelligent relays within a conventional cellular system having at least one base station, one or more intelligent relays, and user equipment elements. The method includes selecting the strongest pilot signal from among the base stations and intelligent relays, reporting such to the base station, distributing an active user list to the relays along with scheduling and routing information via a relay control channel, and transmitting data according to a respective active user based upon the pilot signal strength to maximize coverage and capacity over the cellular system.